

REMARKS

Allowable Subject Matter

Examiner indicated that the subject matter of original Claim 12 is allowable. Applicant has presented new independent claim 18, which includes the limitations of original claim 12 as well as the limitations of those claims from which it originally depended.

Claim Amendments

Applicant has amended the claims to more clearly recite several of the structural features the applicant regards as the invention, to address various grammatical errors and/or US stylistic preferences, and/or to address various comments made by Examiner. Applicant has amended original claim 1 and presented new dependent claims 16 and 17 to describe the invention in a different manner.

Applicant respectfully submits that the claim amendments contained in this paper are in no way intended to limit the claims scope or to comprise a surrender of subject matter or equivalent structures described in the present application. Applicant hereby expressly retains all right to initially present and/or re-present any subject matter described in the present application during the pendency of the instant application or in any subsequently filed continuing application(s).

Objection to the Drawings

Examiner objected to FIG. 1 in that it did not include a "Prior Art" legend. Applicant has amended FIG. 1 to include a Prior Art legend as suggested by Examiner. Amended FIG. 1 is provided by the Replacement Sheet included herewith. No new matter has been added and no further admission is made.

Claim Rejections under 35 USC §112

Examiner rejected several of the claims under 35 USC §112 as being indefinite for failing to particularly point out and distinctly claim that which the inventor regards as the invention.

More specifically, Examiner noted: 1. The claim limitation “the element” of claim 7 lacked sufficient antecedent basis; 2. The claim limitation “the axle differential” of claim 9 lacked sufficient antecedent basis; 3. The limitation “a drive shaft” of claims 10 and 13 comprised double inclusions; and 4. The limitation “such as” of claim 15 rendered the claim indefinite.

In view of the above rejections, Applicant has amended the claims as follows: 1. Claim 7 has been amended to recite that the planetary gear-set and said control motor are connected by a worm gear; 2. Claim 9 has been amended to recite “an” axle differential; 3. Claim 1 has been amended to remove the limitation of a drive shaft thereby removing all instances of “double inclusion” in claims 10 and 13; and 4. Claim 15 has been amended to remove the phrase “such as”.

In view of the Applicant’s amendments to the claims, withdrawal of the rejection is respectfully requested.

Claim Rejections under 35 USC §103

1. Examiner rejected claims 1, 4, 5, 7-10 and 15 under 35 USC §103 as being obvious in view of APA and Schreiner (US 4,393,952). More specifically, Examiner asserts:

“APA shows a vehicle having at least two pair of driving wheels (16a, 16b, 18a, 18b) of which one pair (18a, 18b) is steerable in relation to the longitudinal axis of the vehicle, the vehicle comprising a first transmission branch (the drive of the differential of the wheel axle 16, inherent) connected to a second transmission branch (the drive of the differential of the wheel axle 18, inherent) by way of a fork (connection at 13), the first transmission branch directly connected to a drive shaft (e.g., engine/transmission output shaft, inherent), and the second transmission branch connected to the fork.. APA does not show a control unit provided with control means for varying the transmission ratio in the second

branch and each of a plurality of steerable wheels being connected to the drive shaft via a separated control unit. Schreiner shows a vehicle having a pair of steerable driving wheels (13, 13') (note that the driving sprockets 13 and 13' are equivalent to driving wheels), a transmission branch (7- 10, 8'-10', 14-19, 14'-19') including a control unit (14-19 and 14'-19') provided with control means (19, 19') for varying the transmission ratio in the transmission branch and each of the steerable wheels being connected to a drive shaft (4) via a separated control unit (14-19 or 14'-19'). It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the second transmission branch of APA by the transmission branch (7-10, 8'-10', 14-19, 14'-19') of Schreiner so that the drive motors can be independently operated for adding of their rotation to or subtracting it from that of the respective output (wheels) (see abstract). Regarding claims 4, 5 and 7-10, Schreiner shows the control unit comprising a control motor (19) configured to influence the transmission ratio of a planetary gear (7-10), the planetary gear set comprising a sun gear (10), a planet carrier (11) with planet wheels (9) and internal gear (8), a hypoid gear (5, 6), the control motor (19) connected to the sun gear (10), wherein the connection (9, 11) between the internal gear (8) and the sun gear (10) extends coaxially through the sun gear (10) and the control motor (19) is configured to interacting with the sun gear by way of a gear (15), wherein the control unit is fitted between the drive shaft (4) and a driving wheel (13) so that the drive shaft (4) interacts directly with the internal gear (8) and the driving wheel (13) interacts directly with the planet wheels (9). Regarding claim 15, APA shows the vehicle being an articulated truck."

Applicant respectfully traverses the rejection(s) inasmuch as the rejection may apply to amended Claim 1 and those claims depending therefrom.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) (emphasis added).

When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to:

- (A) The claimed invention must be considered as a whole;

(B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;

(C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and

(D) Reasonable expectation of success is the standard with which obviousness is determined. *Hodosh v. Block Drug Co., Inc.*, 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986) (emphasis added).

“In order to rely on a reference as a basis for rejection of an applicant’s invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned.” *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). See also *In re Deminski*, 796 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986); *In re Clay*, 966 F.2d 656, 659, 23 USPQ2d 1058, 1060-61 (Fed. Cir. 1992) (emphasis added). Additionally, while Patent Office classification of references and the cross-references in the official search notes of the class definitions are some evidence of “nonanalogy” or “analogy” respectively, “the similarities and differences in structure and function of the inventions carry far greater weight.” *In re Ellis*, 476 F.2d 1370, 1372, 177 USPQ 526, 527 (CCPA 1973)(emphasis added).

“When patentability turns on the question of obviousness, the search for and analysis of the prior art includes evidence relevant to the finding of whether there is a teaching, motivation or suggestion to select and combine the references relied on as evidence of obviousness...the [Examiner] must explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious.” *In re Lee*, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002) (emphasis added).

Finally, when a rejection is based on “inherent” features of a prior art reference, “the extrinsic evidence ‘must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill... Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.’” *In re*

Robertson, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (citations omitted). Similarly, when an Examiner bases a rejection on prior art that describes “equivalent” structures, “...to rely on equivalence as a rationale supporting an obviousness rejection, the equivalency must be recognized in the prior art, and cannot be based on applicant’s disclosure or the mere fact that the components at issue are functional or mechanical equivalents. *In re Ruff*, 256 F.2d 590, 118 USPQ 340 (CCPA 1958).

Applying the above principles to the present case, it is respectfully asserted that Examiner has not met the *prima facie* showing required as outlined above to support an obviousness rejection. More specifically, Examiner has not shown:

1. upon considering the references in their entireties and as a whole that one having ordinary skill in the art would have been motivated to even select the references for combination;
2. that assuming, *arguendo*, that one having ordinary skill would have selected Schreiner for combination, that Schreiner contains an explicit or implicit teaching, suggestion or motivation to combine his teachings with those of others to create the present invention; and
3. that, by objective showing, the motivation to combine or modify the teachings of Schreiner with those of the purported APA to create the present invention emanates from that knowledge generally available to one having ordinary skill in the art at the time the invention was made.

The Applicant further submits that with regard to Examiner’s claims that the purported APA includes several “inherent” features, or that Schreiner describes structures that are “equivalent” to those described by the Applicant, Examiner has not set forth sufficient evidence to make it clear “that the missing descriptive matter is necessarily present in the thing described in the reference” or “that the equivalency is recognized in the prior art.”

First, upon considering the Schreiner reference as a whole, it is clear that one having ordinary skill in the art at the time the invention was made would not have been motivated to even select Schreiner for combination with the purported APA. Indeed, the type of vehicle described by Schreiner is wholly contrary to the type of vehicle described in the present application.

Schreiner describes a tracked vehicle whereas the present invention relates to a wheeled vehicle. A tracked vehicle of the type described by Schreiner is very different from a wheeled vehicle of the type described by the Applicant. A tracked vehicle does not comprise a plurality of steerable wheels or a plurality of driving wheels that contact a surface that is to be traversed; on the contrary, a tracked vehicle of the type described by Schreiner comprises a pair of toothed sprockets, which rotate a pair of chain like tracks about a number of “road” wheels. While the toothed sprockets of the tracked vehicle described by Schreiner may be powered, or “driven”, they certainly are not steerable; that is, the toothed sprockets are not capable of rotation with respect to the body of the tracked vehicle itself (about a substantially z-axis where the x and y-axes correspond to axes along the vehicle length and width, respectively). Likewise, the road wheels of a tracked vehicle of the type described by Schreiner are also not steerable (rotatable with respect to the z-axis of the vehicle), but more resemble “idler” or “follower” wheels that act to maintain the stability of the track on the vehicle.

Consequently, a person having ordinary skill in the art of wheeled vehicles and concerned with problems associated with steerable wheels would not look to tracked vehicles for solutions to their problems. Thus, there is no motivation contained in the teachings of the prior art cited by Examiner, or that knowledge generally available to one having ordinary skill in the art, to even select Schreiner for combination with the purported APA.

Second, even assuming, *arguendo*, that one having skill in the art was aware of Schreiner and the purported APA, neither Schreiner nor the purported APA contain an explicit or implicit disclosure, teaching or suggestion to combine or modify their teachings to create the present invention. Additionally, Examiner has not proffered any objective evidence to illustrate that the teaching, suggestion or motivation to combine the reference teachings emanates from that knowledge generally available to one having ordinary skill in the art.

Third, Examiner conclusorily asserts that the purported APA “inherently” discloses several features that are not illustrated in FIG. 1 and/or described in the Applicant’s specification. For example, Examiner asserts that the first transmission branch connects “directly” to the drive shaft and the second transmission branch is connected to the fork; these features simply are not

illustrated or disclosed by the Applicant as comprising prior art. On a similar note, the structural feature identified by Examiner as comprising the “fork” of original claim 1, “(connection at 13)”, is not disclosed by the Applicant as comprising a fork, but rather is disclosed as comprising a “vertical articulated shaft 13” about which the front of the vehicle pivots with respect to the rear.

Finally, Examiner asserts that the Schreiner discloses a vehicle “having a pair of steerable driving wheels (note that the driving sprockets are equivalent to driving wheels).” Contrary to Examiner’s assertion, Applicant respectfully submits that Schreiner does not disclose, teach or suggest steerable driving wheels and/or that a pair of toothed sprockets that grip and rotate a pair of tracks would be recognized by those having skill in the art as being equivalent to a pair of steerable driving wheels. Indeed, the toothed sprockets disclosed by Schreiner are not capable of rotational steering movement with respect to the body of a vehicle; that is, rotation about substantially a z-axis where the x and y-axes corresponding to axes along the vehicle length and width, respectively.

In sum, “[v]irtually all inventions are combinations of old elements. Therefore, an Examiner may find every element of a claimed invention in the prior art. If identification of each claimed element were sufficient to negate patentability, very few patents would ever issue. Furthermore, rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention as a blueprint for piecing together elements in the prior art to defeat patentability of the claimed invention. Such an approach would be an illogical and inappropriate process by which to determine patentability.” For the reasons set forth above, Applicant respectfully submits that amended Claim 1, and those claims depending therefrom, are nonobvious in view of properly construed purported APA and Schreiner.

2. Examiner rejected claims 11 and 13 under 35 USC §103 as being obvious in view of APA, Schreiner (US 4,393,952), and Chamberlain (US 4,186,626). Applicant respectfully traverses the rejection.

Applicant respectfully reasserts all argument made with respect to point 1. above. Applicant further submits that that because claims 11 and 13 depend from nonobvious claim 1, they are also nonobvious by virtue of their dependency therefrom. Therefore, withdrawal of the rejection is respectfully requested.

3. Examiner rejected claims 1, 2, 4, 5, 8 and 15 under 35 USC §103 as being obvious in view of APA in view of Hamada (US 6,325,736). Applicant respectfully traverses the rejection.

Applicant reasserts all argument made with respect to point 1. above pertaining to the purported disclosure of APA. Applicant further asserts that the present invention pertains to transmission systems for driven wheels; that is, wheels that are powered.

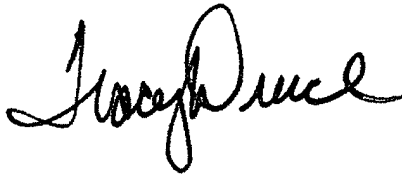
The transmission system disclosed by Hamada pertains to the rear wheels of the vehicle, which in the case of the disclosed front wheel drive vehicle, comprise “idler” wheels that are not powered. Additionally, amended claim 1 includes the limitation that a vehicle according to the present invention include a control unit at each wheel of a transmission branch for varying the speeds of driver side and passenger side wheels. Hamada does not disclose a similar structure; additionally, because of this feature, the present invention allows the differential gear to be eliminated; Hamada includes a differential. Therefore, withdrawal of the rejection is respectfully requested.

The undersigned representative requests any extension of time that may be deemed necessary to further the prosecution of this application.

The undersigned representative authorizes the Commissioner to charge any additional fees under 37 C.F.R. 1.16 or 1.17 that may be required, or credit any overpayment, to Deposit Account No. 14-1437, Order No. 07589.0151.PCUS00.

In order to facilitate the resolution of any issues or questions presented by this paper, Examiner should directly contact the undersigned by phone to further the discussion.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Tracy Druce", written in a cursive style.

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AMENDMENTS TO THE DRAWINGS

A Replacement Sheet, including an amended FIG. 1, is providing herewith that labels that figure as “Prior Art” for those features shown therein; it should be noted however that Applicant makes no further admission regarding the Figure.